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DECEMBER 1974



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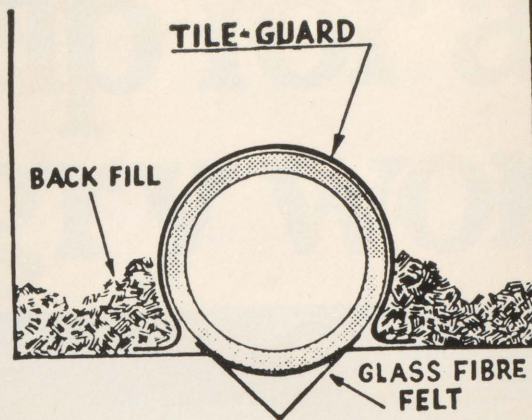
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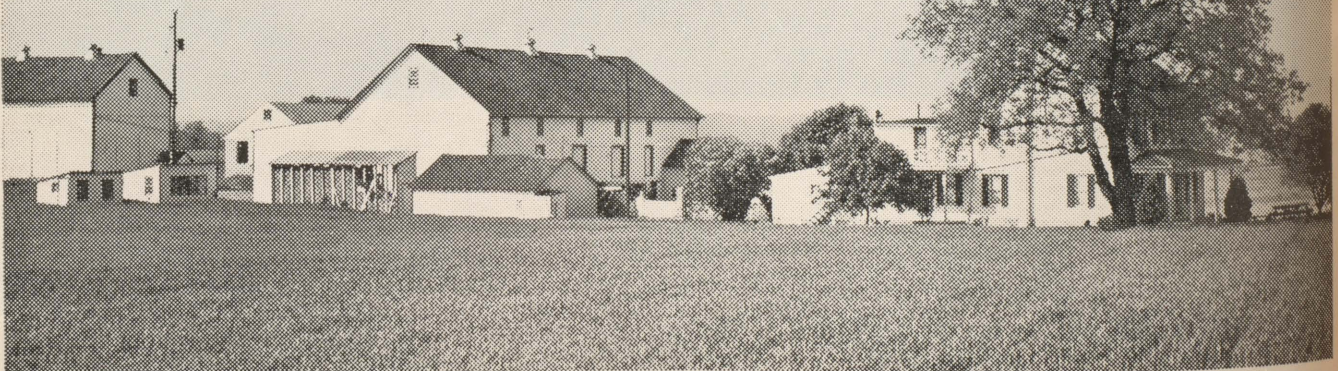
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DECEMBER 1974

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Journal Jottings

I find it hard to believe that this
issue winds up another year of
Journal articles. Surely it was
only a few weeks ago that we
were planning suitable spring
issues, hunting up photos for
summer ones, and meeting dead-
lines for the hectic fall season.
And now we must start all over
again with a fresh, new year
ahead, but not before we take
time to tell you a little about
this particular issue.

The Institute of Parasitology has
been on the Macdonald Campus

for 42 years. Its work reaches far
beyond the confines of this
Campus, but I don't believe that
many of our readers know much
about its existence. The article
in this issue will tell you just
how important the Institute is.
Professor Morrison, Chairman of
the Department of Entomology,
discusses an interesting insect —
the cluster fly. I'd suggest you
clip this article and file it away
for future reference. It is Diamond
Jubilee time for the Lyman
Entomological Museum and
Research Laboratory and Professor
Kevan tells us, briefly, about its
history and present status. We

also welcome new staff members
and those who have returned
from sabbatical leave.

These features, together with our
regular items, take us to the
end of 1974, but not before we
thank our contributors for their
time and effort on behalf of the
Journal and our readers for
their continued interest.
Seasons Greetings to all.

Hazel M. Clarke

The world food crisis! Not another crisis, you may say. We've just been through the gasoline crisis, the fertilizer crisis, the housing crisis, the inflation crisis, the egg crisis, and the beef crisis. We've managed to get ourselves through these problems without suffering too severely. So what's the big thing with the new world food crisis? Won't it pass just like the others?

This type of attitude is, unfortunately, developing in many people because with all the publicity about these other problems, we seem to be becoming somewhat immune to words and predictions of crisis and shortage. After all, won't technology develop along with new political and economic policies to make the problem at least bearable?

The answer isn't always this easy. We learnt this in the early 1960s when new strains of hybrid wheat and rice were developed to alleviate the world's food crisis at that time. This so called "Green Revolution" was supposed to make starving nations self-sufficient in food production. This did not happen because farmers in countries such as India and Pakistan needed

so many other essential services in addition to just new crop varieties such as fertilizer, credit, machinery, marketing systems, processing plants, transportation facilities, etc.

It is this entire infrastructure of agricultural industries and government services that places Canadian agriculture in such an enviable and successful position compared to agricultural systems in other countries. It is the development of this agricultural system that is so difficult and expensive to achieve in these developing countries.

So as an alternative to making this investment and in an attempt to alleviate the immediate problem of starvation, countries such as Canada have been making pledges of agricultural products. Canada's pledge at the recent World Food Conference held in Rome was three million tons of grain over the next three years. This initially seems like a substantial contribution, but, when one spreads this out among the five million hungry people in the world today, it amounts to one slice of bread per person every five days. So large is the problem! It is one that is not going to

disappear as a result of some technological breakthrough or food "handout".

This situation is likely going to have dramatic political and economic implications for the agricultural industries in nations such as Canada. One would think and hope that this world food crisis would place Canadian agriculture higher on the list of priorities of government and economic policies. Nations like Canada have the highly developed supporting agricultural industries that are so difficult to establish in food deficient countries. Unless this type of agricultural industry develops, these countries are going to have to continue to look to countries such as Canada to supply their food.

Gordon Bachman

The Institute of Parasitology

By Professor C. E. Tanner,
Institute of Parasitology.

This fall the Institute of Parasitology celebrated its forty-second year at Macdonald College. The idea for having this Institute on the Macdonald Campus probably originated with Sir William Osler who, on the 3rd February, 1907, wrote to Dean Robertson "... When in Montreal a few weeks ago, I had a chat with Sir William (Macdonald) and Mr. Peterson on the possibility of organizing, in connection with the Agricultural College, an extensive Department of Medical Zoology, in which the whole subject of parasitism should be considered ...". The Institute opened its door 25 years later on a bright September day of 1932 under the Directorship of Dr. T. W. M. Cameron as Professor of Parasitology in a building provided by the Quebec Department of Agriculture. By January 1933 the staff, besides Dr. Cameron, consisted of Miss J. L. Smith (Secretary); Drs. W. E. Swales and I. W. Parnell (Research Assistants); F. H. Clarke (technician, now Head of Parasitology at Lederle Laboratories, Pearl River, New York); H. J. Griffiths (graduate student — more recently Dean of Veterinary Medicine, University of Minnesota), and L. Turner (animal attendant). The original Board of Directors which oversaw the activities of the Institute consisted of a distinguished group of Canadian scientists and administrators: Sir Arthur Currie, Dr. H. M. Tory (President of the National Research Council), Dr. G. S. H. Barton (Dean of Agriculture), Dr. R. L. Conklin (Department of Animal Pathology), Dr. R. Newton (Director, Division of Biology N.R.C.), Dr. J. L. Todd (Professor of Biology) and Dr. Cameron.

Financing of the Institute, with the exception of the heat, light, water and accounting services supplied

by McGill, was borne by the Empire Marketing Board (through 1934) and the National Research Council. In 1938, however, the University began its direct financial contribution to the Institute with a grant of \$5,000, a contribution which has continued to grow over the years. The Institute has been part of the University since its inception, staff members holding regular academic posts. Although originally academically independent, the Institute of Parasitology is now in the Faculty of Science of McGill.

The tasks given to the Institute by the original Board of Directors were to train graduate and undergraduate students and to study the identification, distribution and the host reactions to parasites. This area of concern does not cover all parasites, but only helminths and protozoa since the bacteria, viruses, and many of the parasitic arthropods are studied in other departments. Parasites include a very large size range of animals from the microscopic protozoa to the tapeworms, some of which can reach a length of 23 meters in the intestine of man. The protozoa, which include such parasites as the amoebae, trypanosomes, *Toxoplasma*, and the plasmodia, are tiny, flexible micro-organisms which inhabit such diverse habitats as the blood, tissue cells, and the intestinal tract. The helminths — the worms — are of three types: nematodes (round worms) such as *Ascaris*, *Trichinella* and hookworms; cestodes (flat, ribbon-like worms) such as the "beef", "pork", or "fish" tapeworms and the trematodes (or flukes). Representatives of all these are responsible for a tremendous incidence of infection in man and animals throughout the world, mostly, but not exclusively, in tropical countries.

At least $\frac{5}{8}$ of the population of the globe is infected with at least one parasite producing not only fatal disease but also chronic conditions where the parasitised individual is so sapped by the parasites that he is not able to work effectively or efficiently. This, coupled with the fact that vast areas of the earth cannot be developed because of endemic parasites, produces staggering economic, sanitary, and moral burdens which many countries are unable to bear. Although much of the world's parasitic infections affect people who live in tropical countries, the temperate regions are not free of these diseases. In Canada, for example, toxoplasmosis (a protozoan infection), echinococcosis (an infection in man with tapeworm larvae), trichinellosis (a nematode infection contracted from eating undercooked parasitised pork or bear meat), and amoebic dysentery are not uncommon in man. Parasitic diseases are also important in Canada because many of our immigrants come from countries where parasite infections are common. Canadians are, furthermore, great travellers and our tourists, missionaries, and foreign aid personnel sometimes bring back with them infections which they have acquired in the countries they have visited or in which they have worked. These imported and native infections represent a serious diagnostic, medical, and biological problem which has been the concern of much of the work done at the Institute of Parasitology over the years.

The fruits of these labours are well illustrated by the more than 700 scientific papers, books, and monographs published by members of the Institute staff on a wide variety of parasitological problems.

The Institute has, thus, kept very closely to the functions it was assigned by its first Board of Directors. Of the original staff, Dr. W. E. Swales received wide recognition for his pioneering work on the development of antiparasitic drugs which permit the intensive husbandry practised today throughout the world particularly in sheep and poultry operations. Dr. I. W. Parnell made the first survey of the occurrence of parasitic diseases in Canada and Dr. T. W. M. Cameron earned an international reputation for his work on the biology of hydatid disease and trichinosis and on the host-parasite interactions in these diseases. The careful and extensive investigation by Dr. D. Fairbairn helped to establish biochemistry and physiology as an important and vital subdiscipline in the study of the phenomenon of parasitism.

The staff of the Institute has gone on to build on and to enlarge this solid foundation in the basic biology of parasites and the phenomenon of parasitism. Dr. R. P. Harpur continues his investigations of the physiology of *Ascaris suum* which were begun in coöperation with Dr. Fairbairn. Dr. E. Meerovitch and his group are studying the pathology and immunology of amoebiasis and other host-parasite systems, and my group is investigating the role of parasite factors and the host's antibody and cellular responses in the control of parasitic infections. The new Director of the Institute (since August 1974), Dr. N. A. Croll, is continuing his studies on the mechanisms of the behaviour of parasites.

The scientific "bench marks" which have been established by work done at the Institute are many: the factors controlling the free living life-cycle of *Strongyloides*

(Premvati), the *in utero* transmission of *Toxocara canis* in bitches (G. A. Webster), the comparative pathology of amoebic infections (E. Meerovitch), the biology of *E. multilocularis* (G. Lubinsky), the description of niche diversification in nematodes (G. A. Schad), the pathology of *Nippostrongylus* infections (L. E. A. Symons), the analysis of the antigens of *Trichinella* (C. E. Tanner), the biological control of mosquito populations (M. Laird), the physiology of the reproduction of the trypanosome vectors *Rhodnius prolixus* (K. G. Davey, G. E. Pratt) and *Glossina austeni* (K. G. Davey, S. S. Tobe), immunological suppression in trichinellosis (G. Faubert, C. E. Tanner), and the natural control of hydatid infections (M. E. Rau).

In addition to the intensive research activities currently underway on the biology of parasites and on host-parasite interactions, the Institute of Parasitology has recently had confirmed its long-standing diagnostic service to the Department of National Health and Welfare by being named the National Reference Centre for Parasitology, working in coöperation with the Laboratory Centre for Disease Control in Ottawa. In this capacity the Institute receives specimens from physicians and public health laboratories to confirm or establish a diagnosis for parasitic disease in human patients. The list of these services covers a wide variety of diseases and plans are underway to enlarge, in the very near future, these offerings to the medical community. In the public health field, the Institute serves also as a centre for training technicians from provincial public health laboratories in the diagnosis of parasitic diseases; it also provides specimens to the provincial laboratories as a check of their diagnostic services. During

Canada's involvement in peace-keeping operations in Indochina, Cyprus, and the Middle East, and during the Korean and the Second World War, the Institute has served in the training of medical public health physicians for service in these areas. The Institute also is a source of teaching in parasitology and in the supply of parasite specimens at McGill and to other universities in Quebec. Dr. Meerovitch, Dr. Harpur, and I teach in the Faculty of Agriculture and Dr. Croll teaches in the Department of Biology, Faculty of Science.

The Institute library contains an extensive selection of books, monographs, and journals and its practically unique collection of reprints (over 40,000) and abstracts (over 10,000) on all aspects of parasitology makes these holdings an extraordinarily important tool for research in studies on the taxonomy, distribution, epidemiology, and host-parasite relations of parasitic diseases.

If, in the past, the Institute has been so distinguished and vital to the Canadian scientific community, the future can only hold an even greater promise of achievement. This solid foundation of basic facts on the biology of the interaction of parasites with their hosts and with their external habitat, which has been built by dedicated labour, will form the basis of future discoveries which will rationalize the diagnosis, treatment, prophylaxis, and management of parasitic disease in man. The Institute is taking steps to further enlarge its contribution by serving as a nucleus for coöordinating and contributing to the increasing interest in parasitology which is becoming evident from public health and wildlife investigators. The next 42 years in the life of the Institute of Parasitology should be even more exciting than the last 42!

CLUSTER FLIES

By Professor Frank O. Morrison,
Department of Entomology.

"Winter house flies", "sticky house flies", "window flies", and innumerable other terms have been used to describe the pest flies rightly known as cluster flies which commonly invade various buildings from August to May every year. All these names are descriptive but none are accurate. House fly is reserved for a nasty, somewhat smaller fly, born and raised in animal excrement or rotting vegetation, attracted to buildings where it constantly seeks out food, especially sugar, to feed on, even on the table at mealtime. This undesirable associate of man has many irritating habits. It often chooses to alight on the human skin. Wherever the house fly sits it tests the surface for solubility and food value by spitting on it and lapping up its own saliva. It is notorious for "roosting" on walls, light cords, mirrors, etc., and spotting them with the test spittle. There are innumerable instances of the house fly's involvement in the spread of human diseases. In barns it is a constant source of irritation to man and beast.

The cluster fly is larger and more sluggish than the house fly. It shows no interest in our foods. It is not associated in any way with animals nor does it breed in animal excrement or rotting vegetation. The name cluster fly refers to its tendency to mass in clusters under loose clapboards, around and beneath window frames, in hollow trees, attics, sheds, garages, etc. Its lack of interest in food, in the human body, in animals, in roosting, and in testing surfaces for their solubility are enough to distinguish it from the house fly. Those who wish to look closer need only take a magnifying glass and examine a few specimens to recognize them. Lying close to the



body beneath numerous darker hairs are occasional, or in fresh specimens, many, copper coloured, twisted hairs, like bits of fine copper wire. Their presence is absolute proof. No other fly has these "golden threads".

Their presence in a building is a result of their search for winter quarters. Males and females alike are strongly attracted to flat surfaces, vertical or slanted, and strongly warmed by the sun on any suitable day from mid-August on. Trees with dead, loose bark, hollow trees, banks or piles of stones were their natural sunning parlours, but man built far better ones. Churches, military barracks, large halls, are even better than houses for sunning on. There they

can be found, from August to mid-October, happily sunning and flitting about. As the temperature drops towards evening, flitting is reduced and shelter from the cooling breeze sought. In spite of what looks like a respectable body size they can squeeze and wriggle into cracks or openings a couple of millimeters wide. They "enjoy" tight quarters and in such quarters appreciate company, hence the clustering. The warmth of the next day may bring them out again but more arrive at the sun palace each day, and as the days grow cooler more and more fill up the available winter shelters. Given the same temperature inside a structure as out they will squeeze a little further in but presently cease the struggle and settle down for the winter. But their's is not a

true hibernation. Rather like squirrels or bears they become sleepily active any time the temperature is adequate.

Heated buildings invite penetration toward the desirable warmth. Once past the halfway mark they are on their way out even if it is to the inside. This explains the continual appearance of these visitors over a long period of time.

Come spring those that have managed to survive in their shelters reverse the process and leave the way they came in. Boy-girl interest now develops and the females are soon off flying low above the grass, here and there stopping to lay a few eggs on the soil among the grass roots. Moisture makes the grass-covered soil especially attractive. From the eggs come very tiny, white maggots which wiggle their way in among the soil particles following old rootlet tracks or other winding tunnels. The lucky ones bump, by chance, into certain kinds of earthworms stimulated by the urges of spring to actively burrow among the roots. Aboard the right kind of earthworm (not just any kind) a maggot picks away at his steed's hide and, again with luck, makes himself a hole and buries most but not all of his body in the worm where he feeds on fresh earthworm and grows apace. Three weeks to a month or more later, the maggot having fed on one or more earthworms feels sleep coming on and, covered by its own dried skin, rests quietly while its whole body is rebuilt into that of an adult cluster fly. By blowing up a balloon which can be forced from the front of its head and by other energetic movements the fly frees itself from the dried

skin (puparium), works its way up a few centimeters to the soil surface, expands and dries its wings and becomes air borne.

As far as we have been able to determine only overwintered flies mate and lay eggs, but adults live several weeks or longer so that eggs are laid from early May to late June and adults emerge from sometime in June until mid-August. Certainly none of the flies which are found in winter quarters have mated before going into the shelter.

Massing on windows, making housewives feel that they have failed in their duties; dropping down from acoustic tiles onto people in churches, meeting houses and parade barracks; violating the sterility rule in operating theatres in military field hospitals and even more sophisticated hospitals, these nuisance flies bring on many cries of distress. For years on end they may be especially numerous in one particular building or one particular room. Large buildings, especially when they supply large sunning areas are favoured. Building structures tightly enough constructed to keep them out are hard to find. Even high-rise apartments are on occasion invaded. Buildings sitting on grassy knolls surrounded by large areas of grass sward, especially suitable for the small rosy and "green" earthworms which the fly favours, are especially vulnerable. Large areas of surrounding asphalt with no grassland too near assure relative freedom from the pest.

Some relief can be acquired if you are prepared to act soon enough and use chemical sprays. A

somewhat residual insecticide such as malathion applied over board-siding, wood-shingled roofs, around window frames, and under eaves when these were favoured entrance spots, if applied in early August and renewed as a protective barrier until October, has prevented build up of wintering flies and hence reduced entry. With present rapidly changing government control of pesticide sale and use one should be sure that the pesticide used is cleared for this application at the time you apply it. If this is not on the label don't use it. Always check the label and follow directions or call in a professional applicator.

The nuisance can be mitigated when it occurs by the use of household fly sprays or insecticide impregnated boards or strips which can be hung, especially in little used areas such as attics, and kill flies by giving off vapours.

The Lyman Entomological Museum and Research Laboratory

DIAMOND JUBILEE

Little known to the general public, but internationally recognized by the scientific community, is Canada's second largest collection of insects and related animals, housed on the Macdonald Campus for well over a decade. On December 22, 1974, the Lyman Entomological Museum and Research Laboratory celebrates the Diamond Jubilee of its foundation.

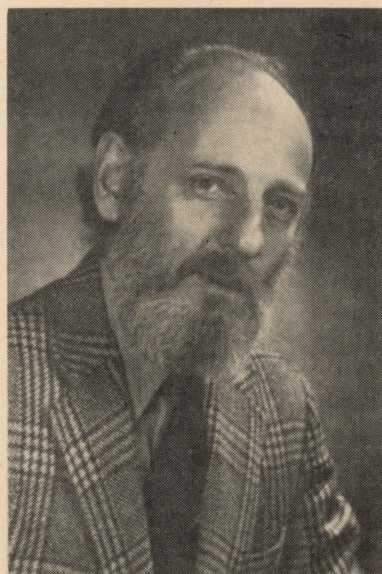
The Museum began in a small way as the private collection of Mr. Henry H. Lyman, a well-to-do Montreal businessman, who, among his other activities, was a keen student of insects, particularly moths and butterflies. He and Mrs. Lyman were both tragically drowned when the "Empress of Ireland" foundered in the Gulf of St. Lawrence, May 29, 1914, and, under the terms of his will, his five cabinets and 78 entomological books passed to McGill University, together with some funds for maintenance and expansion. The committee charged with administering the bequest was formed on December 22, 1914.

During the first 47 years the collections were housed in the Redpath Museum on the Montreal Campus of McGill University under the honorary curatorship of Mr. A. F. Winn (until 1931) and then (until 1961) of Mr. G. A. Moore, the original secretary of the committee. Mr. Moore, in particular, was responsible for considerable expansion of the collection and for broadening its scope, particularly in respect of the true bugs (Hemiptera) and the library.

The illogical separation of the Department of Entomology (which has always been on the Macdonald Campus) and the insect collections,



Dr. D. K. McE. Kevan (Director).



Dr. V. R. Vickery (Curator).

together with increasing pressure for space and the great age of Mr. Moore, led to developments set in motion by the (then) new Chairman of the committee (Professor D. K. McE. Kevan),

By D. K. McE. Kevan,
Director.

who also just happened to be the Chairman of the Department of Entomology (this coincidence had never occurred previously!). The changes included the removal of the legal obstacle which prevented the transfer of the collections elsewhere, the appointment of a University staff member as official Curator, and the move to Macdonald under the direction of the new Curator (Professor V. R. Vickery).

The transfer to the Biology Building at Macdonald and amalgamation with the smaller insect collection belonging to the Department of Entomology were accomplished in December, 1961, when the combined collections were formally designated the "Lyman Entomological Museum". The complete integration of the entomological libraries (together now forming one of the finest on the continent) was not fully completed until some years later. The Museum and its holdings (by the terms of reference), however, have remained administratively separate from the Department of Entomology, and from the Faculty of Agriculture to which the Department belongs. Nevertheless the two virtually form one academic unit, for all professorial members of the Lyman staff (originally only the Curator) are primarily members of the Department.

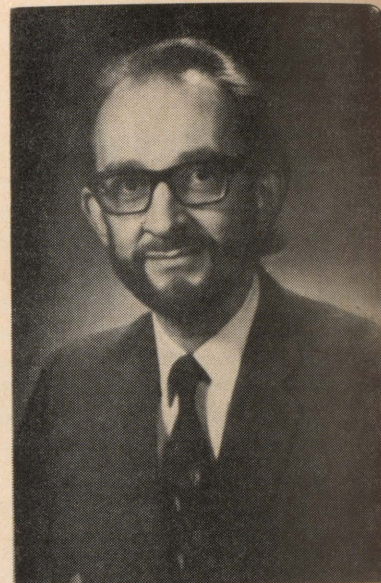
Shortly after its establishment at Macdonald, the meagre endowment income was very modestly augmented from University funds to help meet operational costs. Despite the fact that the Museum operates on a "shoestring", it has been able to expand enormously and is now one of the 25 or so

largest insect collections in North America. It now contains well over 1 million specimens representing some 30,000 species from many different parts of the world. In Canada it is surpassed in size only by the National Insect Collection in Ottawa. This it tends to supplement, rather than duplicate, being stronger in some groups, such as the grasshoppers, crickets, etc. (Orthopteroids), minute soil-inhabiting species, and certain exotic groups. The mutual benefit of the association between the Museum and the Department of Entomology has been very considerable in both teaching and research, particularly at the post-graduate level. More than 65 graduate students since 1961 have used the Museum's facilities, wholly or in part, in the research needed for their degrees.

Lest it be thought that the Museum is a mere mausoleum containing vast numbers of minute corpses, it should be noted that it also has many cultures of living insects and its research, in addition to more traditional taxonomic studies, includes investigations on the biology, ecology, behaviour (including the use of "songs"), cytogenetics and various other matters relating to insects. With all this diversity of activity, it might be thought that the Museum duplicates the work of the Department of Entomology, but, while the work of the one unit often dovetails with that of the other, the activities of the Museum all relate to the field of "systematics" (using the term in its widest sense), whereas the Department is more concerned with other aspects of entomology. During 1972, the now much enhanced function of the Museum was recognized by the University, and its official title became the "Lyman Entomological Museum and Research Laboratory" with a Director and full represent-



Dr. F. E. A. Ali-Khan (Asst. Curator).

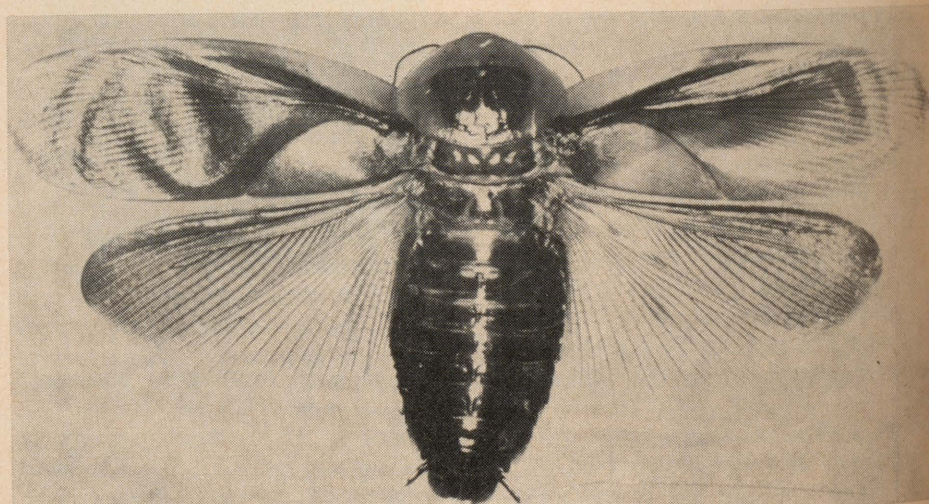


Dr. S. B. Hill (Asst. Curator).

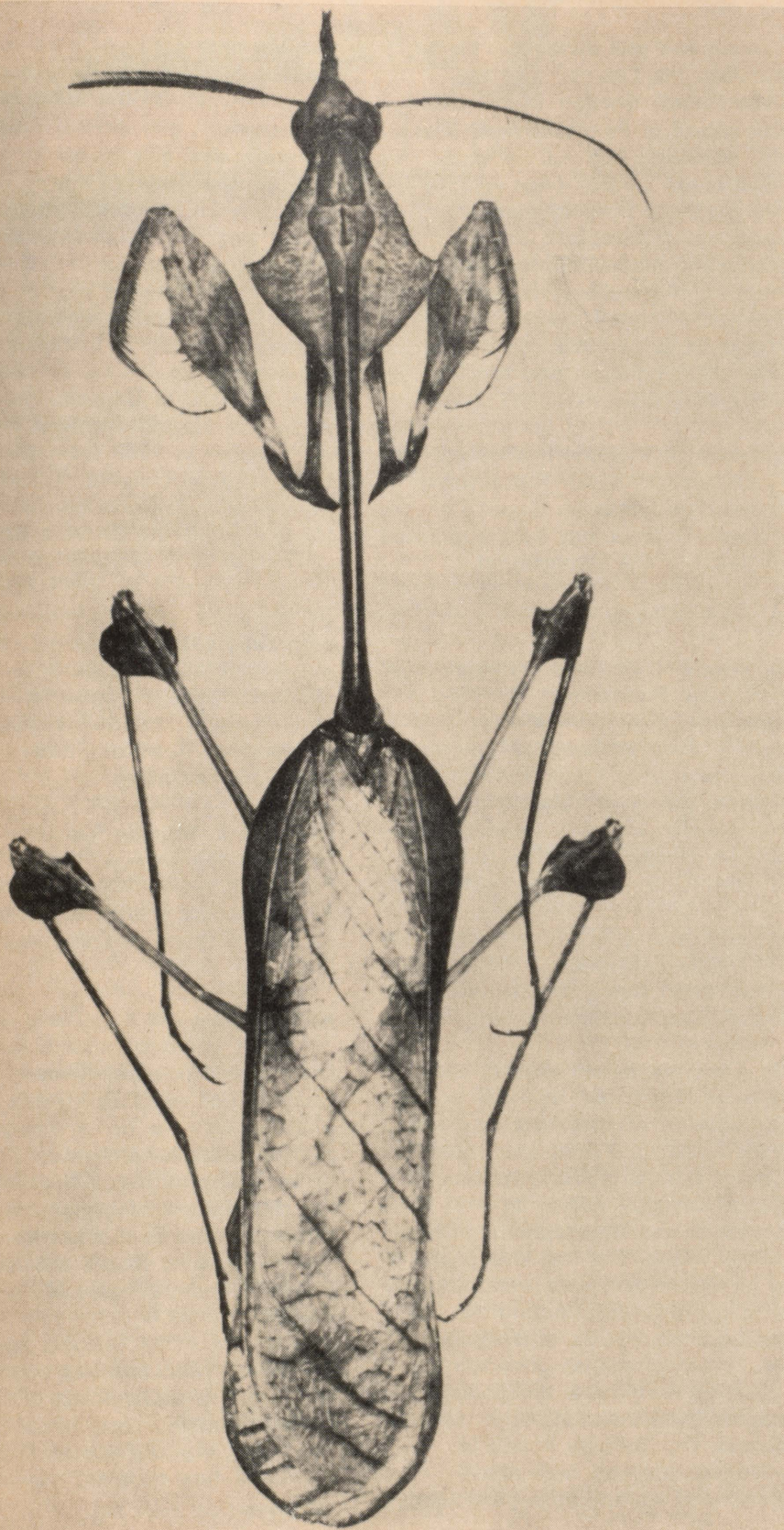
ation on the University Museums Committee (along with the McCord and Redpath Museums) and on Graduate Faculty Council.

In addition to its reference and research activities, the Museum has another important role to play, and it is with this that the general public would be most concerned. It provides (free, although it cannot really afford it) an information service. This includes answering questions from anybody interested

enough to enquire about insects and their relatives: from "What is it?" to "What do I do about it?". The question: "How do I find out more about it?" is preferred! The Museum also entertains small parties of interested people: schoolteachers (with or without their pupils), gardeners, farmers, amateur naturalists, scouts, brownies, and even university professors and/or their wives! Owing to lack of space, however, visits can only be by appointment.



Cockroach from the West Indies.



Mantid from India.

Further, although small displays are sometimes mounted for special purposes, the Museum is a *working* laboratory and not an exhibition. We would very much like to see the millions of dollars needed for adequate buildings, staff, and services that would provide adequate displays in order to educate the public into appreciating the aesthetic, scientific, environmental, and sociological importance of insects, but until there is massive support, more cannot be done than at present. Funds are quite inadequate for present tasks alone. Even the insufficient scientific staff is only part-time and paid from other sources, and non-scientific staff is completely overloaded.

To celebrate the Diamond Jubilee, a series of publications (produced at minimal cost!) has been inaugurated: *Memoirs of the Lyman Entomological Museum and Research Laboratory*. No. 1, "The Orthopteroid Insects of Quebec and the Atlantic Provinces" (204 pp., illustrated, \$2.50) has recently been issued, and No. 2, "The Land of the Grasshoppers" (an international anthology of verse on grasshoppers, crickets, etc.) should appear by the end of 1974.

Currently those directly associated with the Museum are as follows: D. K. McE. Kevan (Director); V. R. Vickery (Curator); S. B. Hill (Asst. Curator, Microarthropods); Mrs. F. E. A. Ali-Khan (Asst. Curator, aquatic insects); A. C. Sheppard (Hon. Asst. Curator, Lepidoptera); J. A. Garland (Research Associate); Miss D. E. Johnstone (senior technician and artist); Miss N. Brown (Secretary).

Macdonald Reports

Earle W. Crampton Award

Dr. Zakaria I. Sabry, outstanding Canadian Nutritionist and dynamic coordinator of the Nutrition Canada survey received the 1974 Earle W. Crampton Award of Macdonald College. The presentation by Dr. Sherman Touchburn in the name of Dean A. Clark Blackwood, sponsor of the award, took place October 31 during the Colloquium on Food and Nutrition held in conjunction with the International Salon of Food and Agriculture at Place Bonaventure in Montreal.

The Crampton Award consists of an inscribed plaque and is given in recognition of distinguished service in the field of nutrition. It is made in honour of Dr. Earle W. Crampton who devoted more than 50 years to research, teaching, and service in the field of nutrition of both animals and humans on the Macdonald Campus.

The national survey of the nutritional status of Canadians has been widely acclaimed as the best and most complete national survey conducted anywhere to date. The choice of Dr. Sabry as this year's recipient is intended to recognize the success of Nutrition Canada and to honour the man directly responsible for its success.

The Crampton Award was presented for the first time at the Colloque Nutrition '73 at Laval University, October 20, 1973. The first recipient was Dr. Rachel Beaudoin, Professor at the Institut de Diététique et de Nutrition of the University of Montreal.

Agricultural Economics

Dr. Gordon A. MacEachern has been appointed Chairman of the Department of Agricultural Economics. Dr. MacEachern is President of the Agricultural Economics Research Council of

Canada and will divide his time between the Council and the Department. Gordon MacEachern was raised in Prince Edward Island and attended N.S.A.C. and Macdonald (B.Sc. (Agr.), 1957). His graduate training was at Purdue and he taught there for two years. Since 1965 he has been with the Agricultural Economics Research Council serving as President since 1968. He is married, with three children and has his home in Ottawa.

Mr. Patrick Moncrieff, a Research Economist with the Agricultural Economics Research Council of Canada, Ottawa, has been appointed to teach in the Department.

Animal Science

Dr. Bruce R. Downey was appointed Associate Professor in the Department of Animal Science on July 1. Born in Almonte, Ontario, and raised on a mixed farm in the Ottawa Valley at Pakenham, Ontario, Dr. Downey received his D.V.M. degree from the University of Toronto in 1963. He practiced for two years at Smithville, Ontario, and worked for a year with the Hamilton District Cattle Breeding Association doing bovine infertility and A.I. technician training.

Dr. Downey joined Ayerst Laboratories, Montreal, in 1966 in the Department of Pharmacology and transferred to Ayerst Laboratories, Chazy, N.Y. in 1970 with Animal Health Division where he did Research and Development of new animal drugs. The last two years of his work there was predominantly with compounds affecting the reproductive cycles of animals, i.e., prostaglandins, gonadotropin-releasing hormones, the gonadotropins PMSG and HCG. At Macdonald, Dr. Downey hopes to continue research with above mentioned compounds particularly

as they may apply to embryo transfer techniques. He expects to do teaching in the areas of reproduction and animal disease generally and will be working with the Macdonald Embryo Transfer Unit as well as contributing, where possible, to experiments regarding animal health and welfare.

Dr. Robert B. Harper was appointed Assistant Professor in the Department of Animal Science on June 1. Born in Canten, Pennsylvania, Dr. Harper received his B.S. degree in 1968 from Michigan Technological University, and his Master of Nutritional Science (M.N.S.) and Ph.D. from Cornell University.

Dr. Harper's research interests are with dairy cattle — complete feeds, energy metabolism, protein utilization and body composition. His teaching will include dairy cattle production, nutrition, and linear programming.

Dr. John E. Moxley has returned to his duties as Associate Professor in the Department of Animal Science after a one-year sabbatical leave in Edinburgh and France.

Microbiology

Dr. Roger Knowles, former Chairman of the Department of Microbiology, is on a one-year sabbatical leave to conduct research on biological nitrogen fixation in the rhizosphere of temperate and tropical plants at the Centre Nationale de la Recherche Scientifique, Vandoeuvre-les-Nancy, France.

Dr. Robert MacLeod has been appointed new Chairman of the Department. A Fellow of the Royal Society of Canada, Dr. MacLeod has received several

(Continued on Page 20)

The Family

Farm

Published in the interests
of the farmers of the province
by the Quebec Department of
Agriculture.

Policy of the Quebec Department of Agriculture

(From a talk by Mr. Gaétan Lussier,
Deputy Minister, to the American
Association of Cereal Chemists,
on October 21, 1974.)

Quebec's Agriculture

If this is your first visit to Quebec,
I think I should give you a general
picture of our agriculture. Our
arable land amounts to only about
six million acres, or scarcely two
per cent of the province's immense
territory. Furthermore, this arable
acreage is made up of land which
varies considerably in quality and
farming potential. Our most fertile
soils are found in the St. Lawrence
Plain, a big region with a climate
in which corn will mature.

The predominating features of our
agriculture are grassland, fodder
and cereal production, and cattle
raising. In fact, over 80 per cent
of Quebec's farm income comes
from dairy farming. Needless to
say, the producers are specialized,
the farms mechanized and there is
a firmly established infrastructure
throughout the farming territory.

The largest proportion of our
farmland — 2.5 million acres —
is devoted to hay and oats. In
1973 spring wheat amounted to
38,000 acres, barley 51,000 and
mixed grains 120,000. In addition,
there is the corn land which probably
exceeded 300,000 acres in 1974.
Besides these crops, I must mention
new ones which promise real
potential, namely soybeans,
rapeseed, fababeans.

To feed the herds which yield
Quebec's milk and dairy products
we therefore depend on forage
crops and grains. As regards
forage, our production meets the
demand but, in the case of cereals,
we produce only 40 per cent of
our needs. For many years, Quebec
has thus turned to the Prairies to
obtain the grains she has lacked
to feed her cattle and hogs.

Cereals

Faced with increased transportation
costs and uncertain deliveries to
eastern elevators, Quebec deemed
it advisable to revise its grain policy.
The potential of different varieties
in our territory was known and a
number of studies had shown that
it was profitable for the farmer
to grow the grain required to feed
his cattle.

During the past three years, the
agricultural department's technical
and extension services have been
carrying out a big campaign to
convince farmers to increase their
production, especially of spring
wheat. For this purpose, they have
proposed a very high-yielding
variety, namely Opal, and the
Quebec Department of Agriculture
grants farmers who sow a few acres
of it a subsidy of \$10 per acre.
After a slow start, the acreage
began to increase and, in 1974,
nearly 50,000 acres were seeded
to spring wheat. Besides Opal,
other varieties of wheat are, of
course, grown.

Average yields are still below
varietal potentials but technical



Mr. Gaétan Lussier.

information is increasingly reaching
the growers and yields are showing
a tendency to rise in some regions
on farms where the cultural re-
quirements of cereals are given
more attention.

In Quebec the principal cereal
grown is oats. Even though this
cereal has a lower protein content
and generally lower yield, it is
nevertheless more tolerant of our
ranges of soil and climate and
on the whole, gives a useful yield.
Admittedly, in comparison with
Opal wheat, which has a potential
yield of around 50 bushels to the
acre, oats with its 29.5 bushels
(in 1973) cuts a poor figure.

However, it must be remembered
that breeding work is being con-
tinued with oats and that yields are

increasing and may continue to do so. Yields of over 75 bushels to the acre under field conditions on more than one farm have been reported to us during recent years. In view of its importance in Quebec's agriculture, oats deserves the continued attention of plant breeders because it is possible to obtain high-yielding and adapted varieties.

In order to obtain more rapidly its big objective of increasing our self-sufficiency in feed grains, the Quebec Department of Agriculture is about to introduce another wheat of European origin with a very high yield. Trials of this wheat have been carried out and the results are convincing.

As regards barley, the Department is making efforts to expand this crop in northwest Quebec and Saguenay-Lake St. John.

With a view to more intensive and effective action, each of Quebec's 12 agricultural regions has set targets for increased acreages of the different cereals and is organizing a campaign amongst its farmers to persuade them to modify their crop plans so as to increase their acreages of small grains and corn.

The government's direct measures in support of grain growing are not limited to the introduction, selection, and breeding of cereals likely to meet Quebec's needs. They also include attention to multiplication of the best varieties, surveillance of the health of seed and crops, maintenance of an extensive range of trials designed to reveal the behaviour and potential of Canadian and foreign lines and

varieties, and provision of analytical services in regional and provincial agricultural laboratories.

Progress is rapid and expansion of cereal growing is well launched.

Oilseeds

These new (to us) oil-bearing crops are beginning to establish themselves in Quebec. Soybeans, already introduced a decade ago, could not make headway for lack of an extraction mill. However, Agrabec Ltée started operating in Quebec in 1973 and its program to set up a modern plant is already well underway. Assured of this new market, the farmers of the St. Lawrence Plain were invited to grow 10,000 acres of soybeans in 1974. High prices for corn and delayed seeding this year changed the situation somewhat and reduced the soybean area to 5,000 acres.

This crop has real potential and numerous trials have shown that all our grain-corn zone is also suitable for soybeans and that yields could exceed 30 bushels to the acre.

Rapeseed is grown in northwest Quebec, where the climate is well suited to it. This oilseed crop also provides an opportunity for crop diversification in other regions and the Quebec Department of Agriculture intends to introduce rapeseed into areas where corn and soybeans cannot thrive.

Briefly, these two crops (soybeans and rapeseed) offer our farmers a chance of considerable extra income. Above all, they are a new source of protein, the demand for which is increasing with our livestock population.

Protein-rich Crops

The increased demand for protein and its very high cost have focused attention on a group of protein-rich crops. Thus, peas, fababeans, and (because of the meal they yield) soybeans and rapeseed constitute what are becoming increasingly known as high-protein crops.

In this field, Quebec is now at the starting line. We are aware of the potential of these crops and are trying to find out which regions offer the best chance of success with them.

Fababeans — an annual legume introduced on more than 100 farms here in 1973 — promise to turn out well in the Saguenay-Lake St. John, Quebec, and l'Assomption regions.

Peas, a well-known ingredient of Quebec's traditional "soupe aux pois", have a strong potential as a source of livestock protein. In the case of this crop, too, technical information is being disseminated to farmers and the expansion of its cultivation is now launched.

Policies of the Quebec Department of Agriculture

Because cereal, oil-bearing, and proteinaceous crops are essential natural resources for Quebec's agriculture, it was natural enough that the Department's measures should be centred, in the first place, around a program designed to integrate plant productions with livestock productions. This program, which we call our self-supply or self-sufficiency plan, is aimed at increasing forage and feed-grain growing and at encouraging farmers to process them on the farm.

Promotional growing competitions have increased our acreages of alfalfa, fodder corn, grain-corn, and soybeans.

These contests have also demonstrated the possibilities of those crops in different regions and brought the farmers face to face with successful efforts in their midst.

At the second stage and on a wider scale, the Department, on October 3rd, launched a bolder agriculture-food plan likely to greatly change Quebec's agriculture.

The agriculture-food concept embraces all the activities directly connected with food and food production. These activities form a diversified complex linking farming, food-processing industries, and the food trade in an interdependent system.

The aims of this plan for the integrated development of the agriculture-food complex are as follows:

To raise and stabilize farm income; to drain and conserve land suitable for agriculture; to increase farm production — with livestock and grain production as priorities; and also to rationalize the primary farm-products processing industry — the most important market for Quebec's farm produce; to promote the setting-up of secondary processing plants to produce more elaborated products, and to ensure reasonable prices to the consumer.

In this connection, I am happy to recall Mr. Toupin's statement: "The integrated agriculture-food development plan expresses and transforms into reality the intention of the Quebec government to

intervene at all levels of the agriculture-food system in order to ensure optimum and coherent development of the farming sector and the food sector."

Within this plan, cereal grains have a most important place and, between now and 1977, Quebec aims to increase its self-sufficiency in this respect to 61 per cent from the present 40 per cent.

It is quite clear that agriculture in Quebec has reached a turning-point and that all means at our disposal — research extension, demonstrations, competitions, subsidies, government participation in private enterprise, etc., — will be harnessed to make this sector of the economy more attractive to the farmers and still more productive.

From "This Month With Information Canada"

Improper storage of legume inoculants: A survey of legume inoculant distribution in Quebec suggests that storage practices are causing loss of activity by the time inoculants move from retail shelves.

The trace of inoculants from manufacturer through to the farmer indicated that retailers often do not follow manufacturers' recommendations for handling and storage of their products which are used to give legume crops a boost in the field. The main shortcoming of the retailers —

mostly local cooperatives and seed growers — is failure to provide adequate cold storage for inoculants. Dr. Lucien Bordeleau, a microbiologist at Agriculture Canada's Ste-Foy, Que., Research Station, conducted the initial survey in 1972.

Oat variety licensed: Agriculture Canada licensed a new oat variety, Alma, developed at the department's Ste-Foy, Que., Research Station. Adapted to the province of Quebec, it also performs well in the Maritimes and over a five-year period has yielded five per cent better than Dorval and 15 per cent better than Garry.

Problem for eastern Canadian oats: Septoria leaf blotch, an oat disease, has reduced yields by eight to 13 per cent in the Ste-Anne de la Pocatière area of Quebec, according to Agriculture Canada research. It is hoped a recently licensed variety, Alma, resistant to the disease, will be accepted by producers and millers.

Improving grain yields in Quebec: Gilles Pelletier, a cereal crops pathologist at Agriculture Canada's Ste-Foy, Que., Research Station, heads a group of scientists testing the efficiency of new chemical fungicides. He checks the practical use of the products and makes recommendations to the producers. Besides helping out the companies, Dr. Pelletier says the tests further the scientists' own research.

Fragipan soils: Fragipan soils are so dense that plant roots and water cannot penetrate them. They may be increasing in Quebec. Although the transformation will not occur overnight, Agriculture Canada scientists are studying the soil situation with interest.

Soils seem to need a high acid level to develop a fragipan, which may be prevented from forming by adding less acidic material to the soil, or by deep ploughing.

Veterinary colleges to expand: Federal Agriculture Minister Eugene Whelan and Ontario Agriculture and Food Minister William Stewart signed a federal-provincial agreement to help expand the Ontario Veterinary College. The federal government will cover 50 per cent of the capital cost of the college's expansion to a maximum of \$2,880,000. The province will match this contribution. Similar agreements are being signed with Saskatchewan and Quebec.

Fast dairy information: An Agriculture Canada dairy team is planning a new dairy markets information system. The purpose of the revised system is to make more up-to-date information available quickly for decision-making by producers, processors, and governments.

Feeding whey to animals: More farmers in Canada should be considering whey, the leftover liquid from the cheese-making process,

as a useful and economical feed, says an Agriculture Canada whey specialist.

Many Canadian cheese factories have a problem with waste disposal, and, where there is no ready market, whey is dumped into quarries, streams, ditches, and sewage systems.

The big push is also on to find new ways to use whey in human foods, says the specialist.

New work for heavy horses: Heavy horses are making a comeback. They're a big draw at shows and fairs and there just aren't enough good show horses in Canada to meet the demand, says Ralph Henry, horse trainer for Agriculture Canada's three teams of Clydesdales on the Central Experimental Farm in Ottawa.

Most of the new work for heavy horses is in the parading, advertising and public relations business.

Certified seed potatoes: Canadian growers export between two and three million hundredweight of seed potatoes every year largely because of Canada's meticulous certification program.

Agriculture Canada's plant protection division keeps diseases out of the country by controlling seed potato imports from countries having potato diseases not now reported in Canada. The division also supervises the production and maintenance of potato breeding stocks which are free from certain other internationally common potato diseases.

Integrated orchard controls succeed: Integrated pest control, a combination of man's management and natural balances, is proving successful in British Columbia orchards after almost a decade of use. The programs are succeeding in letting natural predators of pest mite species eat their way to a happy balance with a mite population kept below a commercially harmful level.

In the face of generally increased production, the reliability of integrated control programs should prove attractive for most growers. Such programs can protect bumper crops without costing the grower added expenses for needless spraying.

Sports field turf: Agriculture Canada researchers are testing 58 turfgrass varieties to see which will best stand up to use on Canadian sports fields. Mixtures of perennial ryegrass and Kentucky bluegrass appear to be the most wear-resistant.

New Crop Development Fund: A one-million dollar New Crop Development Fund has been put into operation by Agriculture Canada. The money will be used to stimulate, develop and adapt new crops and new varieties offering promise for Canadian agriculture. Provincial government agencies, universities, producer groups, and commercial organizations will be eligible for assistance from the new fund.

Trickle irrigation: Unlike conventional irrigation systems which sprinkle or pour a large quantity of water onto a field in a short time, trickle irrigation involves a slow but constant dripping of water from numerous tiny drip points. The technology of trickle irrigation is still in its infancy, but an Agriculture Canada irrigation specialist is optimistic about this somewhat revolutionary way of irrigating many crops.

Animals change feed to food: Ruminant animals, like cattle and sheep, can live on forages and many kinds of organic matter that man cannot, or will not, use directly for food, says an Agriculture Canada animal nutritionist. With the world's increasing population, a time may come when we can't afford to feed potential "human" food to animals.

The ruminant animals need not compete directly with man for food, says Dr. J. W. G. Nicholson. Instead, they can supply meat and milk and provide a means of putting to good use land which cannot be used to cultivate cereal crops but which can be used for growing forages.

Rumen versatility: Ruminants, such as cattle and sheep, are adding to the food chain food which man could not otherwise use. Ruminants can use their large rumen fore-stomach to change low quality proteins and fibre — waste paper, poplar chips, dry hay or food processing wastes — into nutritious food for man.

Nematodes in forage crops: Research has indicated that nematodes, microscopic parasitic worms which live in animals or plants, are reducing yields of forage crops. Jacquelin Santerre of Agriculture Canada's Sainte Foy, Que., Research Station is taking an inventory of nematode populations in forage legume fields throughout Quebec.

His study has so far included more than 90 per cent of the fields seeded with forage legumes in the province, and has led to the identification of eight types of these plant parasites.

Winterhardiness of plants: Scientists at Agriculture Canada's Ste-Foy, Que., Research Station are studying protein formation in winter wheat and alfalfa in the hope of improving the winterhardiness. Dr. Hugh Hope believes that by slightly changing the membrane proteins of plant mitochondria, it may be possible to improve the plants' winterhardiness.

Veterinary medical cytogenetics: Cattle twins of mixed sexes usually have a chromosome abnormality which results in lower fertility for the bulls and, often, sterility for the female, says Dr. Doug Hare, an Agriculture Canada veterinarian.

"Farmers realized a long time ago that a heifer born with a male twin was usually infertile. However, we used to believe that the bull calf was completely normal," he says.

New sheep concepts: The breeding habits of a hardy race of Newfoundland sheep are under study at Agriculture Canada's Experimental Farm at Nappan, N.S. It seems these sheep are willing to breed at any time of year. Female sheep of most other breeds will only mate during half the year. That means farmers don't usually have lambs to market all year round; but the Newfoundland sheep may help us solve that problem, says Nappan Farm superintendent Tom MacIntyre.



"My Christmas Message"

Dear Fellow Members of the
Quebec Women's Institutes:

The real spirit of Christmas is needed now to combat the selfishnesses and injustices that are stirring many to discontent and even to despair. It is but required that humanity shall seek out, in very truth, the meaning of that Life that began when the angels sang their gladsome tidings over Bethlehem town on that first sacred day.

We need to recall the sweet significances and the hallowed memories that are inseparable from this anniversary. Let us hope that the bells that so joyously proclaim
 anew the message of peace and

Members' Conferencee

W.I. members from *Kinnear's Mills* and *Inverness* (Megantic Co.) hosted the Members' Conference on Sept. 25th. Miss Edna Smith, the Q.W.I. First Vice-President and Mrs. Wells Coates, 2nd Vice-President represented the Provincial Executive. Other guests came from Quebec and Compton Counties as well as from Megantic County.

The meeting was held in the former Kinnear's Mills Consolidated School. The attractive tables in the tastefully curtained and freshly painted hall gave a quiet welcome to those present and brought back memories of school days there.

After registering and enjoying coffee and doughnuts, the ladies



goodwill may reach to hearts attuned to entry of all the precious sentiments that are holy at this time.

"It isn't far to Bethlehem town —
It's anywhere that Christ comes down
And finds in people's friendly face
A welcome and abiding place;
The road to Bethlehem runs right through
The homes of folks like me and you."

So here's a warm handclasp, a hearty greeting and may the crowning benediction of each day to come be "Peace on Earth, Good Will to All."

Edyth R. Westover,
Provincial President,
Quebec Women's
Institutes, 1974.



were welcomed by Megantic County President, Mrs. Margaret Dempsey. Greetings from the Q.W.I. were brought by Miss Smith and Mrs. Coates.

The members were then divided into groups and given four questions to study and discuss:
1) What is the future of Q.W.I.?
2) Are we doing all we can to encourage younger women to join our organization?
3) How can we make our meetings more interesting?
4) What can we do to put more meaning into the lives of our Senior Citizens?

After a very lively discussion period, the groups reassembled, and each group's findings were presented to the meeting. Most members felt there was definitely a future for the Q.W.I. We, perhaps, could do more to encourage younger

members by giving them a more active part in activities and in discussions. To make more interesting meetings, the business part should be kept short. Have entertainment committees and give courses in handicrafts were also suggested. We should learn something and also have some fun. To help the Senior Citizens, we could visit them more in their homes and take them for drives.

Lunch was served at noon and was much enjoyed by all. Many asked for the recipe for the chicken stew. (See recipe.) Fun was had as well with a singsong, riddles, and games. One member told about a delightful trip to Vancouver.

News from the Provincial Executive included the fact that W.I. pins will cost more because of rising prices; pens are still available; the plays for 1975 must be written by a W.I. member and the competition is open to all branches.

It was explained by chart exactly how our W.I. dollar is spent — Federally and Provincially. The duties of the various officers were clarified and interim reports discussed.

After expressions of thanks the meeting adjourned. All felt the 'get-together' had been worth while. All are different and have different talents, but each contributed to a very successful day.

Herb's Spice Chicken with Biscuits or Dumplings

(This was served at the Members' Conference at Kinnear's Mills)
Take a boiling chicken, 4 - 6 pounds,

cut into pieces and place in a pot. Cover the chicken pieces with cold water, add 1 carrot, 1 stalk celery cut up, salt, 1 peppercorn and 1 clove. Simmer gently till tender. Remove meat from bones and chill. Take 3 cups of broth, thicken with $\frac{1}{4}$ cup flour and 1 teaspoon paprika. Add 1 can cream of chicken soup, 2 cups cooked carrots (in pieces), 2 good-sized onions (chopped) and 1 can drained peas. Combine chicken pieces and heat all together thoroughly. Put in a casserole immediately, add baking powder biscuits or dumplings and bake in a moderate (350) oven, till biscuits are done. (12 to 15 minutes).

This will freeze well. Just heat and add biscuits just before serving.

Compton Highlights

Forty-three members from *Compton County* attended the Members' Conference at Kinnear's Mills.

Canterbury has been compiling a cookbook and this will soon be on sale. The Roll Call at *Sawyerville*, "A child's question I could not answer" provided quite an insight into the minds of small children and questions such as "What is inflation?", "Isn't it all right to tell a lie sometimes?" were difficult to find answers to. They held a creative handicraft meeting and had a demonstration on making artificial flowers, corsages, pin cushions, etc. Patterns and supplies were available and members then tried their hand at making articles. It was a most successful evening and the ladies felt they had had fun as well as learning a new art.

The members at *East Angus* had been putting their talents to good

use and had turned in \$31 in "talent money". They also donated to the County Bursary Fund and heard articles on plastic pouches becoming a replacement for cans in preserving food and how to dye and dry plants.

Congratulations to *Brookbury* for winning a second prize with their float in the July parade. They saw slides on Newfoundland and entertained an 81-year-old member at an afternoon tea.

Twenty-five-year pins were presented to three members in *Bury* and they celebrated their 55th Anniversary. The teachers were entertained at a meeting as well as the County President and Secretary. A guest speaker, Mr. D. Grant, told of courses available in the area and spoke on the mobile information centre which will serve the Anglophone community.

Christmas Ideas

1) Popcorn trees

Make a fairly thick icing of confectioner's sugar and hot water. Icing should be thick and smooth enough to spread without running. Add green food colouring, if desired. Coat the outside of an ice-cream cone with a good layer of icing. Quickly press pieces of popped corn into the icing, fairly close together, but allowing a bit of the green (if used) to show through. Decorate the popcorn tree with silver dragees, cinnamon red-hots, pieces of cut-up gumdrops or jelly beans, by pressing the candy into the icing or using a dab of icing to make them stick. Decorate the top of the tree with a star, cut from a large gumdrop.

A tree, for decoration only, can be made using a heavyweight conical paper cup or by making a cardboard cone and joining the edges with

tape or staples. A flour and water paste, with green food colouring could be used instead of the sugar icing. These are fun to make by children or adults.

2) Foil Icicles

Mould pieces of newspaper into a long, firm cone shape. Lightly crush a piece of aluminum foil and cover the newspaper cone, shiny side out. Allow the thin end to be fairly pointed. Attach a ribbon to the thick end and hang. These look nice in pairs or groups. Crushing the foil causes the light to be reflected from many small surfaces so that it has a sparkling effect. These can be made in any size to suit individual tastes.

3) Christmas Wreath Cookies

Make shortbread dough. Roll out to $\frac{1}{4}$ inch in thickness. Cut with a doughnut cutter and decorate with pieces of red and green cherries.

Miss Edna Smith QWI 1st Vice President

Miss Smith has been a member of the Belvedere branch for the past 29 years. She has held convenerships in the branch and county; served two terms as County President; served on the Provincial Board and Executive and is at present 1st Vice-President of QWI. She is also a Junior Director of the FWIC. She has attended FWIC Conventions in Ottawa, Winnipeg, and Banff, as well as the 7th Triennial ACWW Conference in Toronto in 1953.

Miss Smith was born on the farm near Lennoxville that had been in the family for 100 years. Her first school was on a corner of the family farm. She went to High School in Lennoxville and received a diploma from Dudley's Business

Mrs. Garland Page, Miss Edna Smith, and Mrs. Garth Montgomery at a recent meeting of the Belvidere branch where Mrs. Page was presented with a Life Membership pin.

College and worked at office work till illness at home brought her back to the farm. She cared for her parents till their death. The farm was sold in 1973 and she now lives with her brother on a small farm where their interest is raising Clydesdale horses. Besides her WI interests, she finds time for work at the Cancer Dressing Station and other community activities.

Dear W. I. Members,

Fall is past and harvests in, after many difficulties. In our area the apple crop was partially spoiled first with high winds and then frost. Pickers were in short supply and many orchards invited people to pick their own. Church groups and students raised funds for projects by picking at weekends. Lack of labour on the farms and in the orchards seems to be a universal problem.

Card parties are starting again. This is a popular way to raise funds. Other ways are through auctions, white elephant, food and other sales, making and selling quilts, catering for weddings, banquets, 4-H lunches etc. *Granby West* and *Waterloo Warden* have a fund that each member contributes to on her birthday, and in October each member paid 31 cents for "Goblin Night". *Dundee* served refreshments at a field corn demonstration. *Wyman* reports that their cookbook is still selling well.

Mrs. McGibbon spoke at *Lachute* on the ACWW flag going from London, England, to Perth in Western Australia for the Triennial Conference. At points along the way, it was received with ceremonies and meetings where members gathered. My pen-pal,

in Australia, had gone to the town of Orange, in New South Wales, "to see the flag and touch it". Pen-pals are wonderful friends and we learn so much about other places and customs through them, whether they are from another province or overseas.

Congratulations to: *Richmond Hill* on their 40th Anniversary — (five of their eight Charter members were able to be present); *Bury* and *Cleveland* celebrating their 55th and *Wright* their 35th.

It is encouraging to note that the WI is concerned for the preservation of some of our historical buildings and beauty spots as *Gore* is in their area. A plan to build a new road would see the road go right through the area depicted on the back of our \$2.00 bill. Representations have been made to the Government with an alternate route suggested. This branch raises funds with the sale of their Kwik Kut cutters, which may be obtained from Mrs. M. Griffith at *Richmond*. One member won a prize on an inter-branch knitted sock competition.

Some of you have sent donations to the Quebec Extension Fund and to the Food for the Hungry Fund; others have ordered Christmas cards from UNICEF and sponsored collections of pennies at Halloween. Tea money has been collected for the northern branches and *Rawdon* has sent Christmas gifts to the children at *Grice Fiord*. *Arundel* packed clothing for northern Quebec.

It is interesting to look back at some of the fall activities, especially to the Fairs. *Stanstead County* reports that their fair this year was "the best ever". They included the Regional School

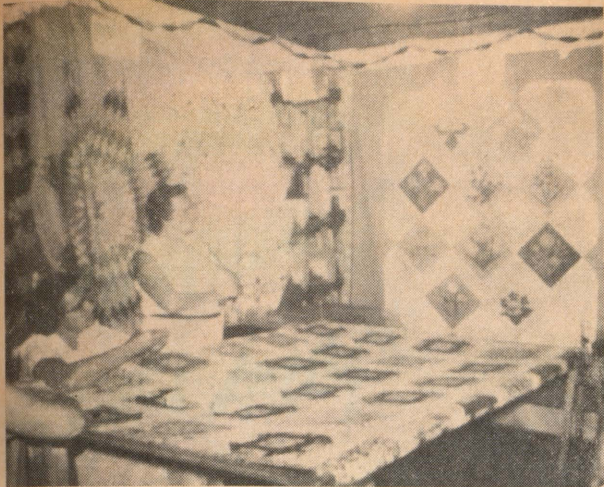


students this time and had 1,267 exhibits in the flower and vegetable line plus many other exhibits. Funds to cover prizes, etc., come from card parties. Besides their large fair, they award three scholarships.

Sherbrooke County has two fall projects every year — The County Fair booth and a School Fair. Many beautiful articles were sold in the booth which was in the arena. Small, easily-carried ones were the best sellers. Many people visited the booth, including WI visitors and the good fellowship enjoyed and the financial success of the booth was very gratifying.

The School Fair was held in the *Lennoxville Elementary School*. The largest number of entries was in the flower and vegetable classes. These were beautifully arranged by the pupils and made a fine display. In the baking section, among the cookies, squares, cakes and candy, one entry, a cake in the shape of a violin, caught the eye. Many handicrafts were exhibited, including a patchwork entry. One child was heard to say "Why, I could do that!" so perhaps next year there will be an extra entry in this class. A Public Speaking contest was also held and the judges found it hard to make a decision. The speeches were good, the children were self-possessed, had good posture, and clear enunciation.

Contests are very popular and some held were spelling bees, flower contests, an original handbag, things for Thanksgiving dinner. *Milby* had a "two minute speech" contest and the *Valcartier* ladies tasted samples of a cake



Members of Compton County with their display of quilts at the Cookshire Fair.

and guessed the ingredients. The *Dalesville-Louisa* branch toured the McVicar stable of Holstein cows and saw a demonstration of milk testing. They had a contest to choose a name for a new calf and the winner was Mrs. McCormick, who chose "Dale Louise", inspired, no doubt, by the name of her branch.

Jerusalem-Bethany have donated a hospital bed to the Lachute Red Cross loan cupboard and *Beechgrove* has received a donation of a hospital bed and cabinet for use in their community, from the family of a deceased member.

Two safety hints I would like to pass on to you: 1) It is important for farmers to be aware of the dangers of "silo gasses". Make sure the ventilation system is working properly, and 2) Christmas will soon be with us and with it we have Christmas trees and greenery which are very inflammable. These, I am told, can be fire-proofed by spraying with a solution of 1 gallon water, 9 ounces Borax and 4 ounces of Boric acid.

Talking about Christmas, let us not forget our older citizens and

those who are sick and shut in. You all remember them with cards and cheer boxes, but if you can spare a little time for a visit, this is so much appreciated. So many of them are very lonely.

I hope you will all have a happy and safe Christmas and my best wishes to you for a good 1975.

Mrs. James Robertson,
QWI Publicity.

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(Continued from Page 10)

awards for his contributions in the field. His current research interests include studies into how bacteria react to freezing and comparative investigations of marine and terrestrial bacteria cells. Dr. MacLeod, who has been at Macdonald since 1960, holds degrees from the University of British Columbia and the University of Wisconsin.

Agricultural Engineering

Dr. Robert Kok was appointed Assistant Professor in the Department of Agricultural Engineering on September 1. Dr. Kok is a Ph.D. graduate (1974) in Chemical and Biochemical Engineering from the University of Western Ontario. He was born in Holland and has been attending school in Canada since 1960. He took his Bachelor of Engineering Science at Western and completed this in 1969. He then carried on the Ph.D. work and his thesis research centred on methods of dissolved oxygen on the respiratory system characteristics of the food yeast *Candida Lipolytica*. Professor Kok is teaching and will be doing research in Food Engineering.

Agronomy

Dr. Howard A. Steppler has returned to his duties as Professor in the Agronomy Department after a one-year sabbatical leave. As a Research Fellow of the International Development Research Council, Dr. Steppler was based in England but travelled a good deal to South America and other points of interest during the year.

Parasitology

Professor Croll obtained his B.Sc. appointed Director of the Institute of Parasitology. After his early education at Upper Canada College and Taunton School in England, Professor Croll obtained his B.Sc. and Ph.D from London University. In 1967-68 he was, as a Fulbright Scholar, a United States Department of Agriculture Post-doctoral Fellow at the University of California. His own researches have been into the physiology and behaviour of nematodes (parasitic worms) and have included periods in Asia and Africa when he studied human hookworm with the support of

the Ford Foundation. Studies were also undertaken in East Africa and the Indian Ocean as a Winston Churchill Fellow. Professor Croll has taught at London University for the past 10 years.

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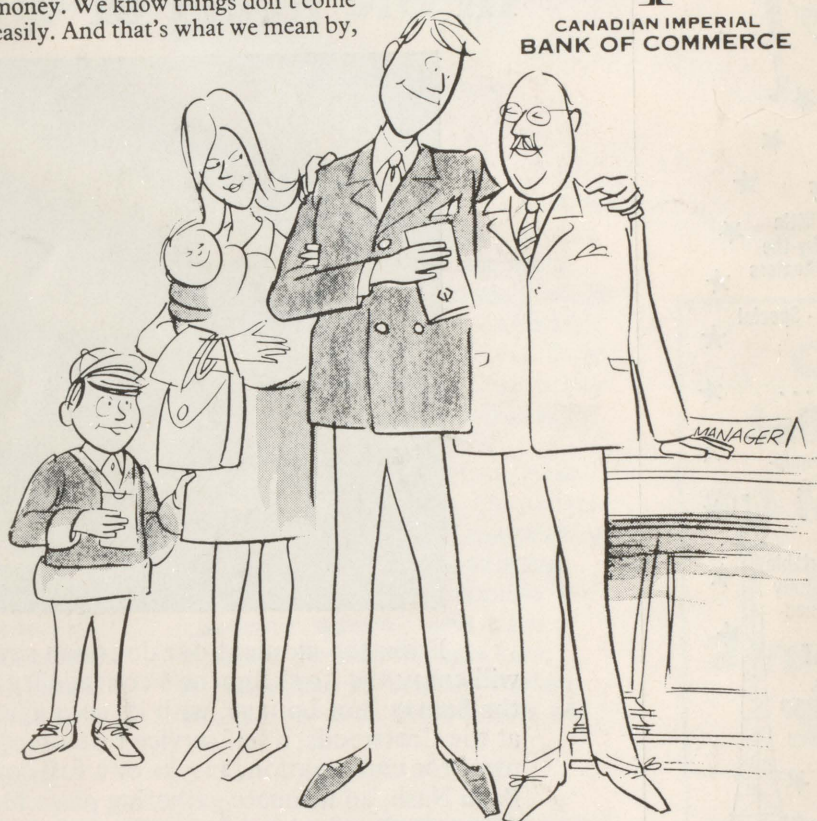
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